GOVERNMENT OF INDIA
ATOMIC ENERGY
LOK SABHA

UNSTARRED QUESTION NO:4182
ANSWERED ON:16.12.2009
DISPOSAL OF NUCLEAR ENERGY WASTE
Biju Shri P. K.

Will the Minister of ATOMIC ENERGY be pleased to state:

(a) whether adequate arrangements have been made for the disposal of nuclear energy waste;

(b) if so, the details thereof;

(c) whether the Government scrutinizes the history and service of nuclear fuel supplying companies before placing orders;

(d) if so, the details thereof; and

(e) the approximate cost of nuclear energy per unit for both industrial and household utility when the energy Production increases as per Indo-US nuclear deal?

Answer

THE MINISTER OF STATE FOR SCIENCE & TECHNOLOGY AND EARTH SCIENCES (INDEPENDENT CHARGE), PMO, PERSONNEL, PUBLIC GRIEVANCES AND PENSIONS AND PARLIAMENTARY AFFAIRS(SHRI PRITHVIRAJ CHAVAN)

(a) Yes, Sir, adequate arrangements have been made for the disposal of nuclear energy waste.

(b) Radioactive waste management facilities are located at seven DAE centres, namely Trombay, Tarapur, Kalpakkam, Rawatbhata, Narora, Kakrapar and Kaiga.These facilities have been designed, constructed and commissioned based on the research and development programme which was initiated four decades ago alongwith the inception of nuclear energy programme in the country.The facilities incorporate waste management systems for treatment and disposal of radioactive waste generated in the form of gas, liquid and solid.

Radioactive gaseous waste is decontaminated at source by treatment processes like demisters, adsorption, filtration through high efficiency particulate air filters etc. and after monitoring, discharged through tall stacks for further dispersion.

Radioactive liquid and solid waste is categorised as low, intermediate and high level radioactive waste based on the activity content. The waste is segregated and provided treatment to retain bulk of the radioactivity.

Low & Intermediate level radioactive liquid wastes are subjected to treatment such as chemical,ion exchange,evaporation and membrane separation.The bulk of the radioactivity is removed and conditioned in a suitable matrix like cement. The solidified waste is packaged in suitable containers and are stored/disposed in near surface disposal facilities.These facilities are designed on multi-barrier principle and have elaborate monitoring and surveillance provisions.The treated effluents are monitored and discharged well within the authorized limits to the environment.

High level waste is vitrified into borosilicate glass matrix and encapsulated in steel canisters.These canisters are later stored for interim period in specially made air cooled facilities.

(c) & (d) A duly constituted Standing Committee carries out the techno-commercial evaluation of all nuclear fuel supplies before orders are placed.

(e) The estimated tariff of nuclear power from reactors to be set up with international cooperation will be known after commercial agreements are concluded.